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## ABSTRACT OF THE DISCLOSURE

A method for determining the color perception of multilayer dispersive materials or biological materials for layer thicknesses that are respectively selective, by the determination of the diffuse reflectance based on the respective intrinsic optical parameter using Monte Carlo simulations and taking into consideration the measurement geometries, anisotropy and the dispersion phase function in order to correctly take into account the multiple internal dispersion of the material. The color effect is calculated from the diffuse reflectance based on the various color systems in accordance with different algorithms.